



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,547	06/14/2001	Yu-Li Chang	S01.12-0712	6844

7590 11/10/2003

Deirdre Megley Kvale  
Westman, Champlin & Kelly  
International Centre, Suite 1600  
900 Second Avenue South  
Minneapolis, MN 55402-3319

EXAMINER
----------

KLIMOWICZ, WILLIAM JOSEPH

ART UNIT	PAPER NUMBER
----------	--------------

2652

DATE MAILED: 11/10/2003

//

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/881,547

Applicant(s)

CHANG ET AL

Examiner

William J. Klimowicz

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 23-29 is/are pending in the application.
- 4a) Of the above claim(s) 2-5, 8, 10, 12 and 13 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 7 and 17-21 is/are allowed.
- 6) ☒ Claim(s) 1, 9, 11 and 23-29 is/are rejected.
- 7) ☒ Claim(s) 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***DETAILED ACTION***

***Claim Status***

Claims 1-21 and 23-29 are currently pending.

Claim 22 has been cancelled by the Applicants.

Claims 1, 6, 7, 9, 11, 14-21 and 23-29 have been examined on the merits, *infra*.

Claims 2-5, 8, 10, 12 and 13 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a non-elected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No., filed April 28, 2003.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 9 and 23-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshizawa et al. (JP 2-50379 A).

As per claims 1 and 23, Yoshizawa et al. (JP 2-50379 A) discloses a disc drive (FIG. 1) comprising: a chassis (10); at least one disc (1); a spindle assembly (2) rotationally supporting the at least one disc (1) relative to the chassis (10) to form a flow field along a surface of the at least one disc (1) via rotation of the at least one disc (1); a head assembly (4) including a suspension (FIG. 3) supporting at least one head (3) positionable proximate to the disc surface;

Art Unit: 2652

and a flow controller (7) supported in the flow field along the disc surface and the flow controller (7) (comprising a flow device (13)) including a leading edge (edge at which airflow enters vent (12) - see FIG. 2) having a plurality of inlets (three inlets designated at dashed lines (12) in FIG. 2) and a trailing edge (edge at which airflow exits vent (12) - see FIG. 2) including a plurality of outlets (three at trailing edge which correspond to the dashed lines (12) from leading edge to trailing edge as seen in FIG. 2) and including a plurality of streamline flow passages (12) between the plurality of inlets at the leading edge and the plurality of outlets at the trailing edge to reduce turbulence in the flow field.

As per claim 9, wherein the flow controller (7) includes a block structure (7) including the leading edge and the trailing edge having the plurality of inlets formed along the leading edge of the block and the plurality of outlets formed along the trailing edge of the block and the plurality of streamline flow passages (12) therebetween - as is readily seen in FIG. 2.

As per claim 24, including a plurality of stacked discs (1) supported by the spindle assembly (2) and a plurality of flow devices (13) supported relative to the stacked discs (1).

As per claim 25, the head assembly (4) supporting at least one head (3) relative to the surface of the at least one disc (1) and the flow device (13) is a flow gate supported "upstream" of flow of the flow field to the head assembly. That is, as seen in FIG 3, flow device (13) can be construed as being "upstream" since the flow of air is recirculated back to the head assembly, such that it makes no difference in which direction the disc (1) spins as seen in FIG. 3, the flow device can be construed as either being "upstream" or downstream," as per claim 26 since the air flows in a circular manner.

Art Unit: 2652

As per claim 27, wherein the plurality of flow passages (12) include a plurality of radially spaced circumferential flow passages (i.e., the passages (12) are formed along (13) in the radial direction of the disc (1).

As per claim 28, wherein the streamline flow passages (12) are angled to redirect the flow field - see FIG. 2.

As per claim 29, the plurality of streamline flow passages (12) include a constant cross-sectional area or dimension between the plurality of inlets and the plurality of outlets - see FIG. 2.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al. (JP 2-50379 A).

See the description of Yoshizawa et al. (JP 2-50379 A), *supra*.

As per claim 11, Yoshizawa et al. (JP 2-50379 A) discloses a width of the flow controller (7) as extending between inner and outer positions of the head assembly to condition flow to the head assembly (e.g., see *inter alia*, FIGS. 1, 3 and 4).

Art Unit: 2652

As per claim 11, however, Yoshizawa et al. (JP 2-50379 A) does not expressly show wherein the head assembly (4) is pivotally supported to move between an inner position and an outer position.

Official notice is taken that pivotally mounted head assemblies are notoriously old and well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the disc drive of Yoshizawa et al. (JP 2-50379 A) with a pivotally mounted head assembly, as is common in the art.

The rationale is as follows: It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the disc drive of Yoshizawa et al. (JP 2-50379 A) with a pivotally mounted head assembly, as is common in the art, in lieu of a linear actuator, in order to reduce the size of the disc drive, by allowing the actuator assembly to be moved closer to the disc via pivotal attachment of an actuator bearing, such advantages of pivotal mounting being well known, established and appreciated in the disc drive art.

*Allowable Subject Matter*

Claims 6, 7 and 17-21 are allowed.

Claims 14 (and claims 15 and 16, which depend therefrom) would be allowable if amended to include all limitations from their preceding base claims, including any intervening claims.

Art Unit: 2652

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-3452. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

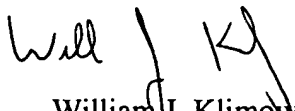
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Application/Control Number: 09/881,547

Page 7

Art Unit: 2652

  
William J. Klimowicz  
Primary Examiner  
Art Unit 2652

WJK

November 4, 2003